Creator. That such was the fact, their edifices seem loudly to proclaim, by the presentation of such forms in the plans, component parts, and geometric decorations of their buildings; and it would have been strange indeed if religious fervour had not thus invented some creative scheme, whereby the temples of the living God might be produced and accomplished under the influence of a holy symbolical guidance."

Of all the inquirers into the depths of this question, Mr. W. P. Griffith, whose last work on the subject is now before us,* appears to have carried out the application of the primary figures to plans of existing buildings the most successfully. In the round church at Cambridge, the plan of which he gives, intersecting squares inscribed within the circle mark the position of the columns, and the disposition of the windows and doors. In Little Maplestead, in Essex, the primary figure used is the equilateral triangle, which in like manner gives the position of the columns, doors, windows, and buttresses. In the plan of Malmsbury Abbey Church, several very curious coincidences are pointed out, the equilateral triangle being the figure used, and in that of King's College Chapel, Cambridge, even more so. In the construction of sections the same primary figure used in the plan is employed, and a very satisfactory result is arrived at. In a letter read at the Institute of Architects, and which appeared in THE BUILDER,† Mr. Griffith explained his own views, so that we need not now state them; we will add, however, that verbal communications with this gentleman have satisfied us, that he has now mastered the subject to a surprising extent.

We are not disposed to attach any mysterious meaning to the figures employed, or to dwell on their symbolical character. We will view them simply as the means of obtaining certain proportions, and in that light alone consider the subject one of great interest, demanding to be settled. The Institute have set apart one of the first meetings in the ensuing session for the discussion of it, by which time, it is hoped, many of the members will have prepared themselves for a careful consideration of it.

We have had triangles and circles satisfactorily founded on the plans of existing buildings; what we now want are, plans of new buildings, founded on triangles and circles. A good practical geometric system is now the desideratum.‡

We add a notice of a recent foreign work, which bears somewhat on the general question.

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Although the following remarks may seem, at the first glance, novel and extraordinary, they deserve attention as emanating from a source most respectable, we mean the Engineer Wild, at Zurich, who, only a short time since, received from the king of Wurtemburg the great gold medal for science and art, for a discovery relating to military art.

The results of Mr. Wild's researches relate to the monuments of Egypt and Ethiopia, and their signification as to mathematical and astronomical traditions and notions, which (if not firmed), would point at a high degree of scientific knowledge of these people. The chief source, or rather the *key* of the present incubration, is the doctrine of magnitude (*Grossen-lehre*) of Pythagoras, which he had obtained from the Egyptian priesthood. The properties (nature) of numbers and of the triangle, are the chief basis of Mr. Wild's researches. He even asserts, that "numbers are the key by which antiquity may be wholly revealed. From out of the simplest triangle (the equilateral) he derives the figures of the three pyramids of Ghizeh—admired by men for the last 4,000 years. He proves that their size bears an analogy to the measure of the globe; viz., that the largest exhibits the extent of a portion of the meridian; the second, the size of the parallel circle, on which it stands; that the third implies a measure of time—the solar year!

After the Pyramids, follows the laying down the position of cities, which flourished in times of remotest antiquity. The city of Memphis stood on the spot where the "half angle of the centre of the regular hexagon corresponds with the geographical latitude," viz., at 30° north latitude, the very spot where the pyramids also were erected. The *same* half angle of the centre of the regular heptagon, points exactly to the latitude of ancient Thebes; and Mr. Wild asserts that the ancient Egyptians were such accurate cosmographers and surveyors, that the centre of the ruins of the city corresponds to the very *second* with the place it was intended to occupy. The regular octagon corresponds in a similar way with the ruins of the temple of Ibeambol, in Ethiopia.—Beside thus assigning the situation of cities and temples by the properties of polygonal figures—the author points out others, by the properties of triangles, in a trigonometrical way, by which operation the position of cities and temples may be ascertained, which have completely vanished from off the surface of the land. Mr. W. applies this procedure to the ascertaining the position of ruins hitherto unknown. He also shews that along the meridian, running through the great pyramids, there extends a series of numbers, by way of which it is possible to ascertain the position of the temples and cities along the Nile—and thus he lays down the position of old Meröe in Ethiopia!

ON THE POSITIVE SCIENCE AND MATHEMATICAL PRINCIPLES INVOLVED IN THE FINE ARTS.

ALTHOUGH this attempt to prove the possibility and importance of establishing art on the solid basis of science cannot command the implicit confidence, which a more advanced professional rank in the writer would warrant, yet I hope it will be read by some who will bestow a patient consideration on opinions the result of careful and deep meditation.

It is to be hoped there are few

> "Who every theoretic truth disdain
> And blunder on mechanically vain."

Most, I think, after their first timid excursions in the art, when strengthened in daring by the teachings of experience, will eagerly proceed in quest of the regions of perfection on a course of their own, but in revealing to others their views, they may expect,—like Columbus, first prophesying from the voyage of intellect a yet practically to be realized new world,—their courage to be recorded as rashness—their conviction as idle presumings—and for their pains, a farewell of sneers instead of "God speed you." For men consider that he only deserves honour of them, who returns successful with his vessels treasure laden, and the voyage chartered that others may follow.

Finding that, in common with many others, I possessed confused notions on matters connected with art, I could never rest till an instinct of my nature was satisfied, which continually urged me to obtain fundamental principles. Confused ideas on any subject must render all reasonings upon it extremely inaccurate and inconclusive. Could this admit of remedy, I imagined it could only be from a diligent investigation of natural laws; and could I accomplish this, the rules deducible from such an inquiry might be applied to the imitative arts, and to whatever else they concerned, without much difficulty. The labour I have undertaken has appeared, since commencing it, in its full magnitude, and that which is ordinarily deemed an isolated investigation, seems to demand nothing less than a profound study of the whole range of physical science.

I have quoted largely authorities advocating the reduction of the varied departments of human experience to the positive or scientific condition, introducing Conte's law of mental evolution as expounded in Lewis's "Biography of Philosophy," shewing this to be the ultimate state, at which all knowledge arrives. In this introductory discourse I act only in the capacity of architect and builder, selecting from heaps of ready and beautifully prepared materials, those best suited to the purpose of my own design; thinking it would contribute much more to the successful effect of the whole than if composed of my own rough masonry.

If I should succeed in favourably impressing you with the possibility of art arriving at the condition of a recorded science, you will be the better prepared to follow investigations, the themes of future papers.

It may be observed with regard to an art—science, that England and Germany are equally deficient, and discussions on the subject in both countries are of as metaphysical a nature as can well be imagined—and we enter our protest against metaphysical systems.

There are many, I am fully aware, who repudiate the notion of art ever becoming a science, and those even who feel convinced to the contrary must bear witness to this experience,—that, notwithstanding man's highest convictions, the struggle between reason and fancy is always a hard one: we tenaciously cling to all the fanciful creations of ignorance long after any faith in their reality exists.

Many urge the apparent variety of tastes, as rendering any general law by which all should be influenced impossible of attainment, but I believe this seeming difference is on account of various degrees in education and judgment, and as often in art those qualities which are universally pleasing have to be rejected by the artist of mature judgment, a difference of opinion arises, as many more people see than weigh.

Those who deny the possibility of art being reduced to more scientific principles than at present, are often found to express contempt for the metaphysical notions of the Germans: confused indeed must be their system—if system it can be called, which at once rejects both positive and metaphysical doctrine—relying perhaps on supernatural inspiration.

It is to be hoped, however, the number is decreasing of those who give credence to this notion of inspiration. As our art is not a divine gift, so neither is it a mechanical trade; its foundations are laid in solid science, and practice, though essential to perfection, can never attain that to which it aims unless it work under the direction of principle.

To speak of genius and taste as in any way connected with reason or common sense, would be, in the opinion of some towering talkers, to speak like a man who possessed neither: who had never felt that enthusiasm, or, to use their own inflated language, was never warmed by that Promethean fire which animates the canvass and vivifies the marble.

The arts would be open for ever to caprice and casualty, if those who are to judge of their excellencies had no settled principles by which they are to regulate their decisions, and the merit and defect of performances were to be determined by unguided fancy. How many more principles may be fixed and ascertained we cannot tell; but as criticism is likely to go hand-in-hand with the art which is its subject, we may venture to say, that as that art advances, its powers will be still more and more fixed by rules.

It is the very same taste which relishes a demonstration in geometry, that is pleased with the resemblance of a picture to an original, and touched with the harmony of music.

"All these (says Reynolds speaking of proportion, colour, &c.), have unalterable and fixed foundations in nature, equally to be investigated by reason, and, therefore, true as mathematical demonstration, but known to be true only to those who study these things."

If, in order to be intelligible, I appear to degrade art by bringing her down from her visionary situation in the clouds, it is only to give her a more solid mansion upon the earth. It is necessary that at some time or other we should see things as they really are, and not impose on ourselves by that false magnitude with which objects appear when viewed indistinctly, as through a mist.

It must of necessity be, that even works of genius, like every other effect, as they must have their cause, must likewise have their rules; it cannot be by chance that excellencies are produced with any constancy or any certainty, for this is not the nature of chance, but the rules by which men of extraordinary parts, and such as are called men of genius, work, and are either such as they discover by their

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* "Ancient Christian Churches, their Proportions and Characters," published by the author, 9, St. John's-square.

† See p. 367, ante.

‡ Among the writers on this subject is Mr. Cresy, and mentioned by the Institute in a list of writers upon it, which they have published. In his clever work "Encyclopædia of Civil Engineering," the last chapter xxxi. is appropriated to "proportions."

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